

Notice of Allowability

Application No.

10/067,153

Examiner

Kelly L. Jerabek

Applicant(s)

SOHN, IL-YOUNG

Art Unit

2612

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed 8/22/2005.
2. ☒ The allowed claim(s) is/are 5-6 (renumbered as claims 1 and 2 respectively), 9-10 (renumbered as claims 3 and 4 respectively), and 13-14 (renumbered as claims 5-6 respectively).

3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☒ All b) ☐ Some* c) ☐ None of the:

1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/320,873.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date <u>10/5/2005</u> . |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

DETAILED ACTION

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Frank DeRosa on 10/5/2005.

The following changes are being made by way of an Examiner's Amendment:

Please amend line 5 of claim 5 (renumbered as claim 1) to read as follows:
"commonly connecting a second sense transistor at a drain and a source of said first sense transistor".

Please amend line 10 of claim 5 (renumbered as claim 1) to read as follows:
"said second photodiode to said second reset transistor and second sense transistor;
and".

Allowable Subject Matter

Claims 5-6 (renumbered as claims 1 and 2 respectively), claims 9-10 (renumbered as claims 3 and 4 respectively), and claims 13-14 (renumbered as claims 5 and 6 respectively) are allowed.

The following is an examiner's statement of reasons for allowance:

Re claims 5 and 6, the prior art fails to teach or suggest " A method of increasing voltage readout sensitivity of a CMOS active pixel sensor, said sensor including a first photodiode having leakage current flow, a first reset transistor for resetting photodiode voltage and a first sense transistor connected to said photodiode, the method comprising the steps of:

Commonly connecting a second sense transistor at a drain...to said first sense transistor;

Commonly connecting a second reset transistor to said first reset transistor for activating both first and second reset transistors by a reset signal;

Shielding a second photodiode...and second source transistor; and

Reading out voltage upon illumination of incident light on said first photodiode by activating a select transistor connected to said first and second sense transistors".

Re claims 9-10 and 13-14, the prior art fails to teach or suggest "A method for compensating loss of sensitivity of a CMOS active pixel sensor, comprising the steps of: compensating for loss of pixel voltage of a CMOS active pixel sensor caused by leakage current of a first photodiode connected to a gate of a first sense transistor using leakage current of a second photodiode connected to a gate of a second sense transistor complementary to the first sense transistor, wherein compensating comprises increasing the amount of current flowing to a bit line through the second sense transistor in an amount substantially proportional to the amount of decreased current flow to the bit line through the first sense transistor due to a decreased voltage of the first photodiode".

Re claims 5-6, 9-10, and 13-14, MPEP section 804.1 regarding prohibition of double patenting rejections under 35 U.S.C. 121 states that the third sentence of 35 U.S.C. 121 prohibits the use of a patent issuing on an application with respect to which a requirement for restriction has been made, or on an application filed as a result of such a requirement, as a reference against any divisional application, if the divisional application is filed before the issuance of the patent. In the instant case application (10/067,153 the instant application) is a divisional of US 6,365,950 and application (10/067,153 was filed on 2/4/2002 which is before the issuance of US 6,365,950 (4/2/2002). Therefore, US 6,365,950 cannot be used in a double patenting rejection against application (10/067,153 the instant application).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contacts

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kelly L. Jerabek whose telephone number is **(571) 272-7312**. The examiner can normally be reached on Monday - Friday (8:00 AM - 5:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ngoc Yen Vu can be reached on **(571) 272-7320**. The fax phone number for submitting all Official communications is 703-872-9306. The fax phone number for submitting informal communications such as drafts, proposed amendments, etc., may be faxed directly to the Examiner at **(571) 273-7312**.

Art Unit: 2612

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KLJ



NGOC-YEN VU
PRIMARY EXAMINER